

DETAILS
FOR
LAP MACHINES AND
HEILMANN COMBERS.

JOHN HETHERINGTON & SONS, Limited,
MANCHESTER.

SPECIAL
COLL
TS
1583
.D42
1890z





DETAILS FOR LAP MACHINES.

JOHN HETHERINGTON & SONS,
LIMITED,

Makers of all kinds of
Cotton Opening, Scutching, Carding, Preparing,
Spinning and Doubling Machinery, also
Engineers' Tools, Mill Gearing, Hoists, etc.,

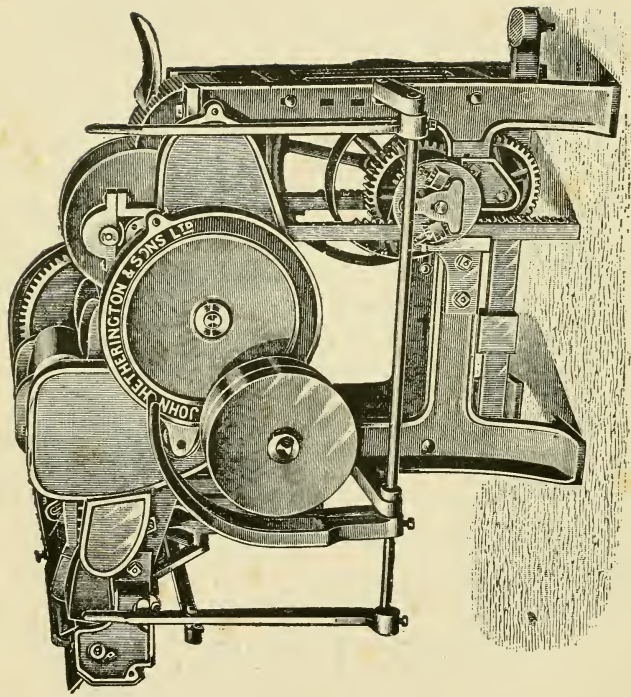
POLLARD STREET, ANCOATS,
MANCHESTER.

Telephone No.
230.

Telegraphic Address:
"HETH," MANCHESTER.

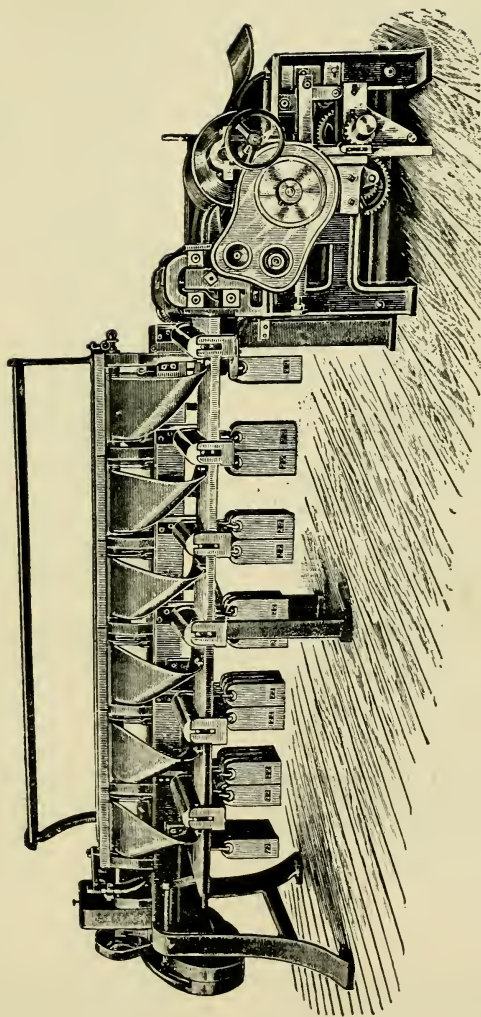
UMass Dartmouth

JOHN HETHERINGTON & SONS, LIMITED, MANCHESTER.

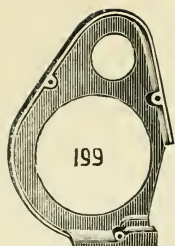


SLIVER LAP MACHINE.

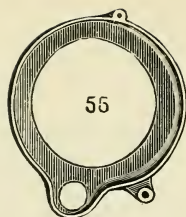
JOHN HETHERINGTON & SONS, LIMITED, MANCHESTER.



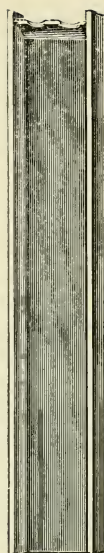
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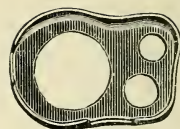
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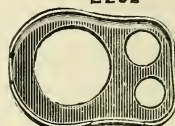
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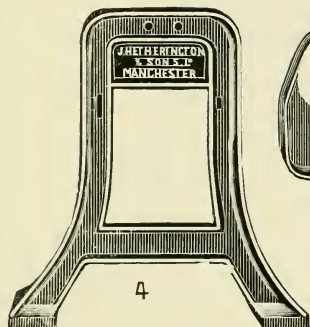
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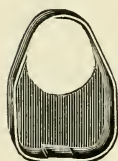
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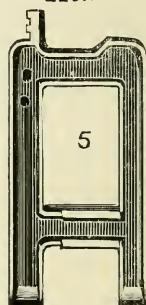
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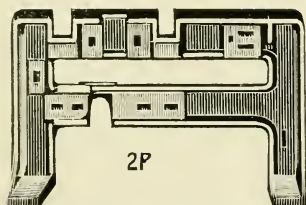
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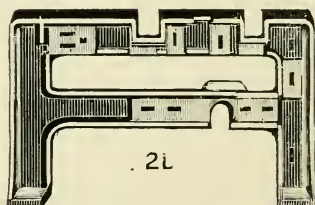
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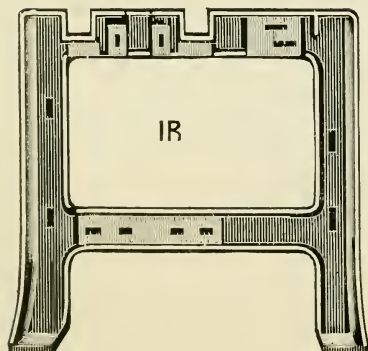
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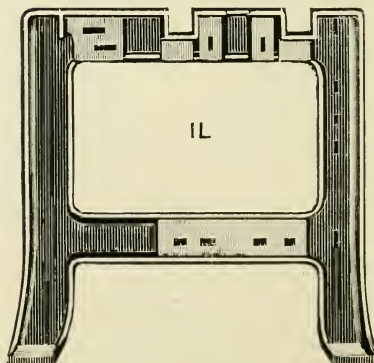
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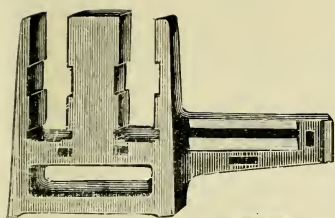
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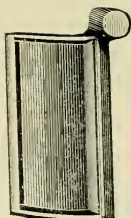
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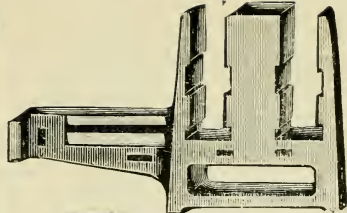
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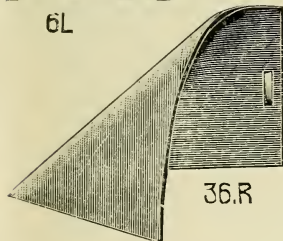
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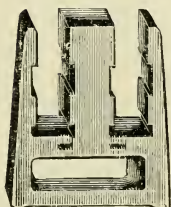
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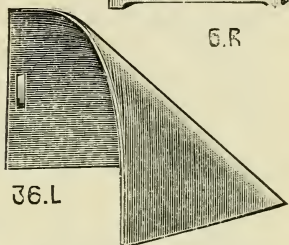
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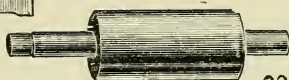
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36.L



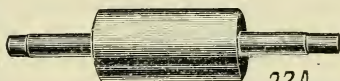
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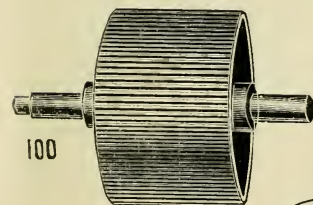
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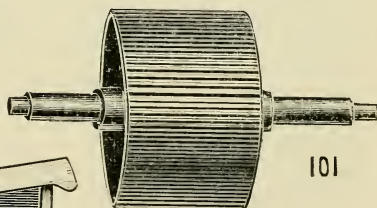
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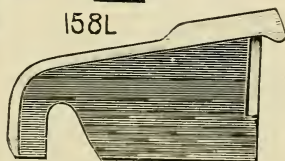
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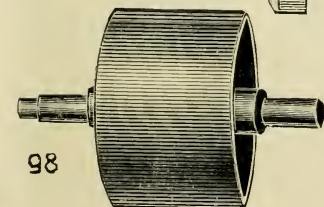
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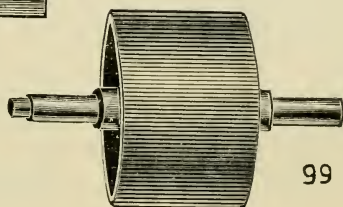
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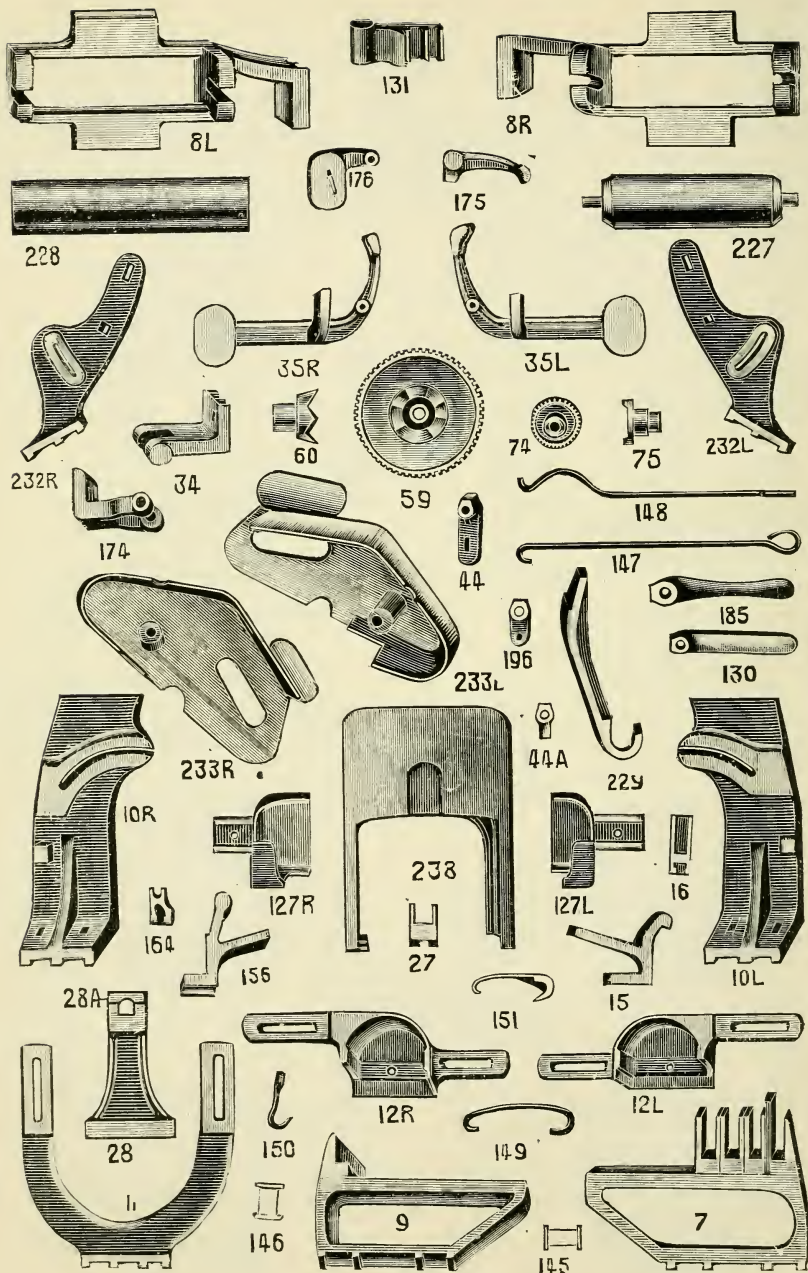
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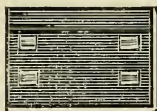
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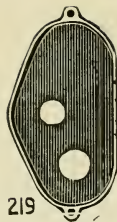
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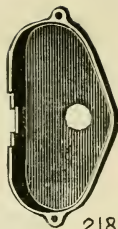
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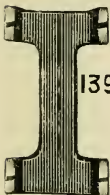
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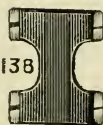
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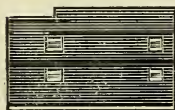
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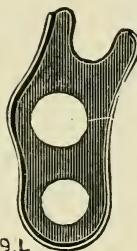
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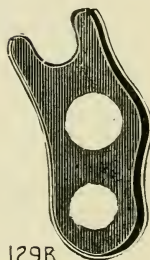
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136.L



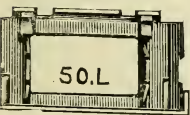
129.L



129R



30

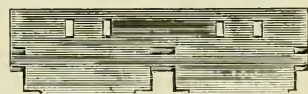


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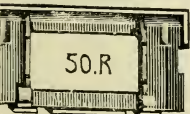


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211L

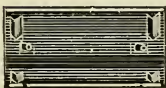


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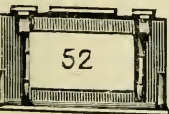
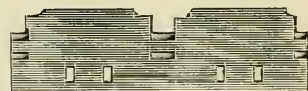


50.R

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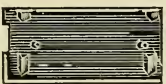


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52

160.R



213.L

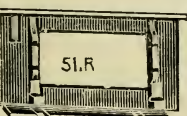
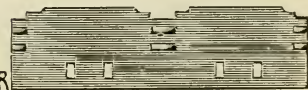


51.L

160.L

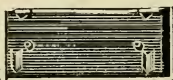


213.R



51.R

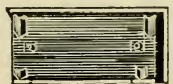
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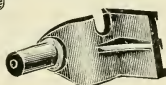
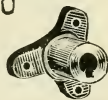
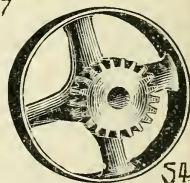
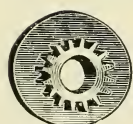
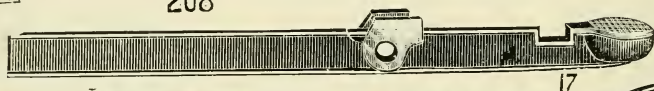
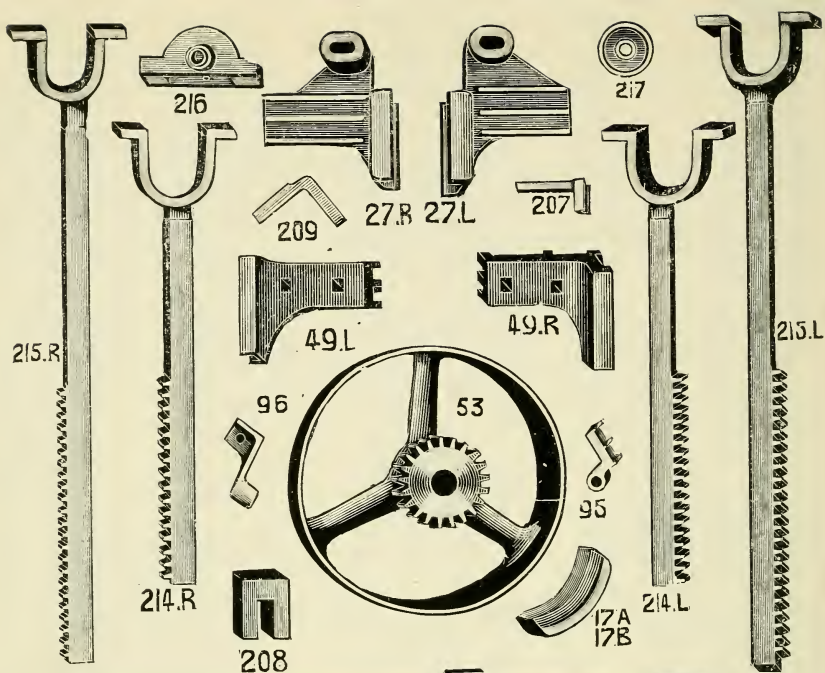


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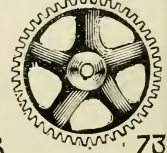
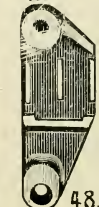
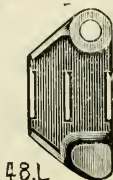
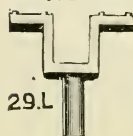
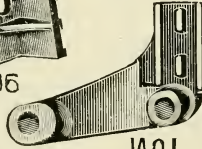
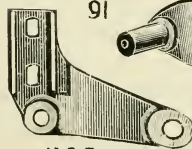
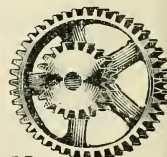
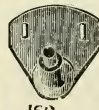
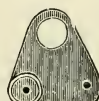


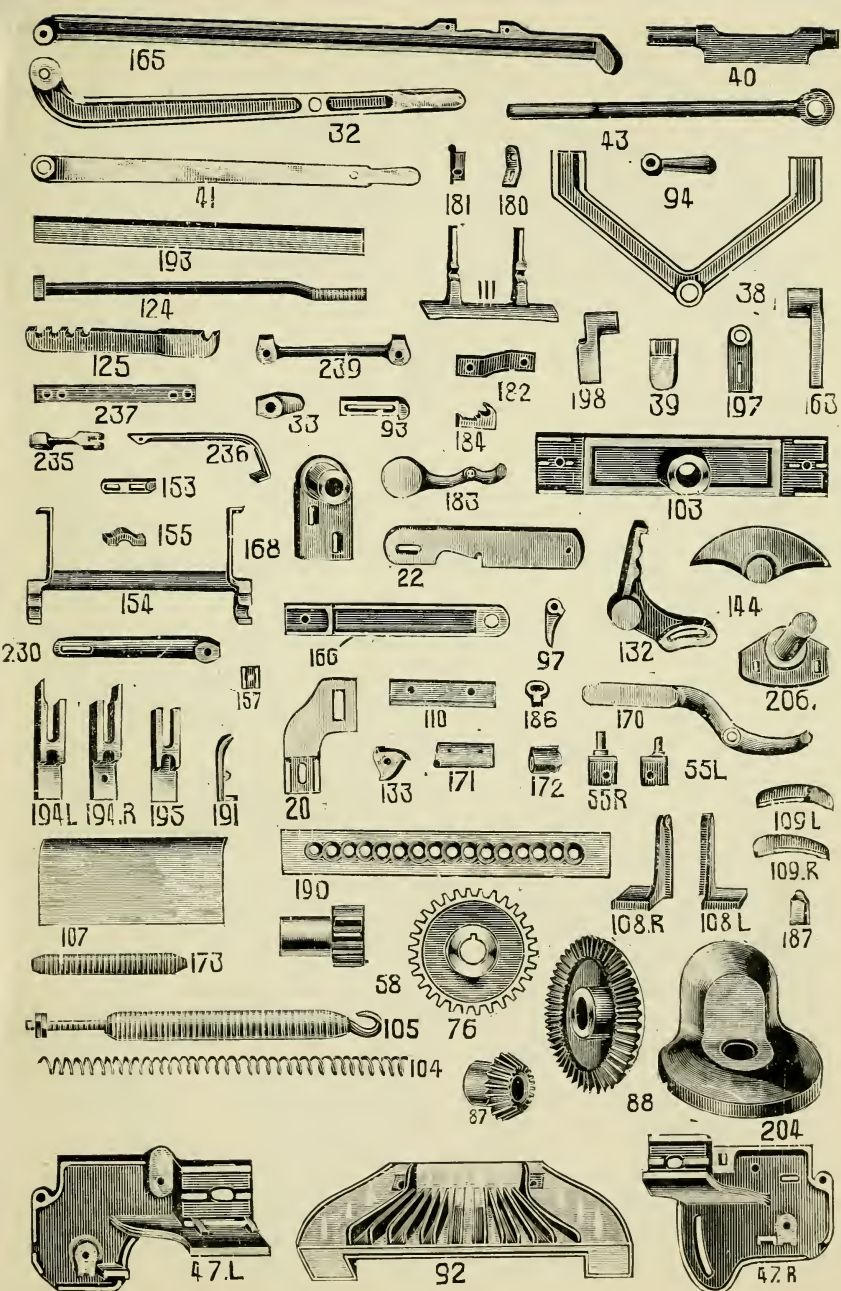
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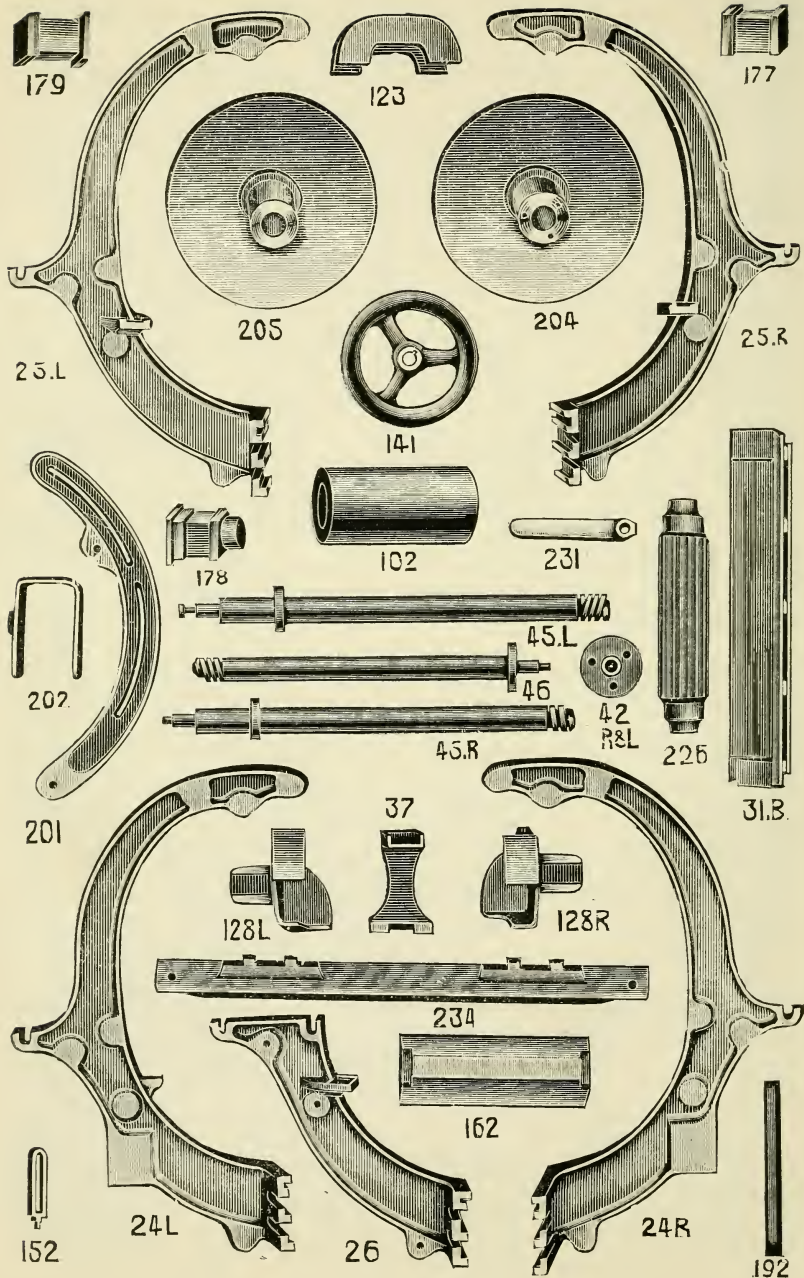


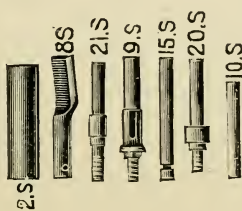
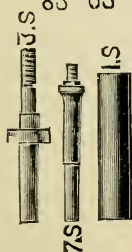
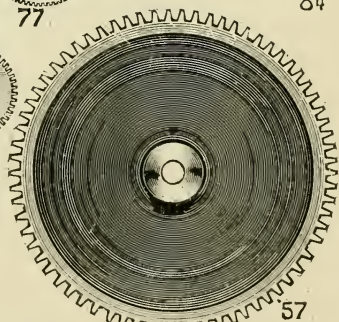
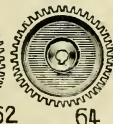
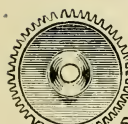
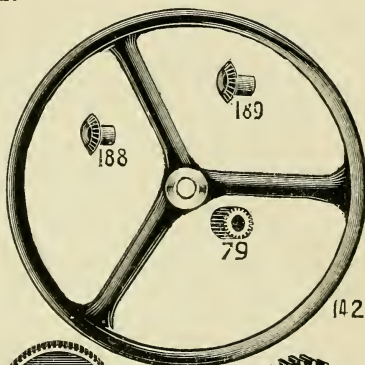
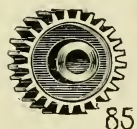
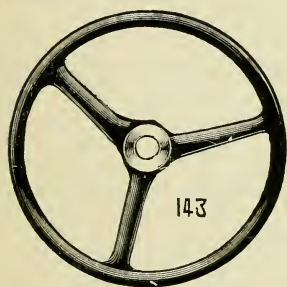
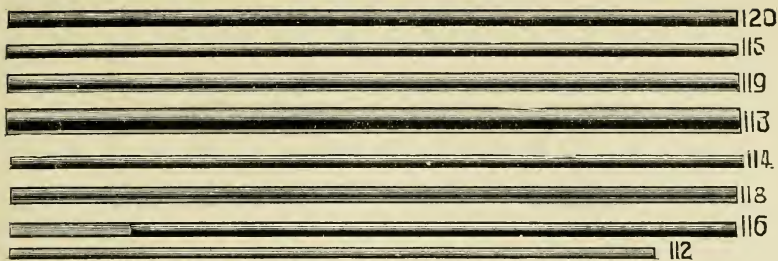


23.B.R









DETAILS FOR LAP MACHINES.

**NOTE.—In ordering Sundries for Lap Machines, kindly
state the width of Lap of the Machine they
are required for.**

- 1R. Lap Sides, Sliver Lap
- 1L. " " " "
- 2R. " " Ribbon Lap
- 2L. " " " "
- 3. Roller Beam " "
- 4. Frame End " "
- 5. Spring Piece " "
- 6R. Lap Stands, Sliver Lap
- 6L. " " " "
- 6A. Lap Stand without Arms, Ribbon Lap
- 7. Roller Stand, Ribbon Lap
- 8R. Large Calender Bracket, Ribbon Lap
- 8L. " " " " "
- 9. Gearing End Roller Stand " "
- 10.R Upright Bracket, Ribbon Lap
- 10L. " " " "
- 11. Horn Bracket " "
- 12R. Horn Box " "
- 12L. " " " "
- 13. Back Stretcher, Sliver Lap
- 14. Front " " "
- 15. Small Curl, Ribbon Lap
- 16. Roller Stand Slide, Ribbon Lap
- 17. Brake Lever
- 17A. Clog for Brake Lever, Ribbon Lap
- 17B. " " " Sliver Lap
- 18. Lap Cradle
- 19. Heart Bracket for 41 T. and 26 T., Sliver Lap
- 20. Cross Lever Bracket, Sliver Lap
- 21. Stop Motion Cross Lever Bracket, Ribbon Lap
- 22. Knocking-off Catch, Ribbon Lap
- 23AR. Rack Plate
- 23AL. " "
- 23BR. " "
- 23BL. " "

- 24R. Large Back Bracket, Gearing End, Ribbon Lap
 24L. " " " " " " "
 25R. " " " Off " " "
 25L. " " " " " " "
 26. Small Back Bracket, Ribbon Lap
 27. Cast Iron Slide, Gearing End Stand, Ribbon Lap
 27R. Rack Slide, Ribbon Lap
 27L. " " " "
 28. Pillar Bracket " "
 28A. Cap for ditto " "
 29R. Drum Carrier Wheel Bracket
 29L. " " " "
 30. Back Plate, Sliver Lap
 31. Knife " " "
 32. Setting-on Rod Handle, Sliver Lap
 33. Stop Rod Bracket
 34. Clutch Weight Bracket, Ribbon Lap
 35R. Clutch Weight, Ribbon Lap
 35L. " " " "
 36R. Large Curl " "
 36L. " " " "
 37. Large Curl Bracket, Ribbon Lap
 38. Eccentric Stretcher (Weight Relieving Motion),
 Sliver Lap
 39. Small Bracket for Spring, Ribbon Lap
 40. Eccentric (Weight Relieving Motion), Sliver Lap
 41. Setting-on Rod Handle
 42R. Lap Mandril Nut
 42L. " " " "
 43. Handle (Weight Relieving Motion), Sliver Lap
 44. Stud Bracket for Stop Rod, Ribbon Lap
 44A. Stud for Stop Rod, Ribbon Lap
 45R. Lap Mandril " "
 45L. " " " "
 46. " " Sliver Lap
 47R. Back Bracket " "
 47L. " " " "
 48R. Bottom Gearing Bracket, Sliver Lap
 48L. " " " " "

- 49R. Rack Slides
 49L. " " "
 50R. Revolving Clearer Cover, Gearing End, Ribbon Lap
 50L. " " " " " "
 51R. " " " Off " " "
 51L. " " " " " " "
 52. " " " Middle, " "
 53. Brake Pulley and 21 T. Spur Wheel, Sliver Lap
 54. " " and 21 T. " " Ribbon Lap
 55R. Hinge for Back Plate, Sliver Lap
 55L. " " " " " "
 56. Round Guard for 72 T. Plate Wheel, Sliver Lap
 57. 72 T. Plate Wheel, Sliver Lap
 58. 12 T. Driving Wheel, " "
 59. 90 T. Clutch " " "
 60. Clutch Box, " "
 61. 80 T. Back Roller Wheel, Sliver Lap
 62. 50 T. Calender Roller Wheel, Sliver Lap
 63. 64 T. Back Roller " "
 64. 70 T. " " " Ribbon Lap
 65. Taking-in Wheel (usually 24 T.), Sliver Lap
 66. 41 T. and 26 T. Compound Carrier, Sliver Lap
 67. 33 T. Front Roller Wheel, Sliver Lap
 68. 26 T. Back " " " "
 69. 22 T. Middle " " " "
 70. 37 T. Back " " " Ribbon Lap
 71. 30 T. Back " " " "
 72. 54 T. Calender Driving Wheel, Ribbon Lap
 73. 45 T. Brake Wheel
 74. 49 T. Clutch Wheel, Ribbon Lap
 75. Clutch Box, Ribbon Lap
 76. 30 T. Drum Wheel
 77. 100 T. Crown Wheel, Ribbon Lap
 78. Draft Wheel, Ribbon Lap
 79. 25 T. Front Roller Wheel, Ribbon Lap
 80. 50 T. Carrier, Ribbon Lap
 81. 40 T. Wood Roller Wheel, Ribbon Lap
 82. 60 T. " " " "
 83. 50 T. Broad Carrier, Ribbon Lap "

84. 21 T. Calender Roller Wheel
 85. 25 T. Drum and Calender Carrier Wheel
 86. 64 T. Bossed Carrier, Sliver Lap
 87. 20 T. Driving Bevel, Ribbon Lap
 88. 40 T. Bevel and 14 T. Spur Driving Wheel,
 Ribbon Lap
 89. 45 T. and 21 T. Brake Wheel
 90. Rack Regulating Wheel
 91. " " " Bush
 92. Tin Conductor, Sliver Lap
 93. Rack Knocking-off Bracket, Sliver Lap
 94. Handle for Finger Shaft, Sliver Lap
 95. Side Shaft Bracket, " "
 96. " " " " "
 97. Finger for $\frac{5}{8}$ Side Shaft " "
 98. Front Fluted Drum, " "
 99. Back " " " "
 100. Front " " Ribbon Lap
 101. Back " " " "
 102. Wood Lap Bobbin
 103. Driving Shaft Bracket, Ribbon Lap
 104. Spring for Square Ended Stop Rod, Ribbon Lap
 105. Knocking-off Spring, Ribbon Lap
 106. 25 T. Calender and Drum Wheel Bracket,
 Ribbon Lap
 107. Sheet Iron Sliver Plate
 108R. Bracket for ditto
 108L. " " "
 109R. Sliver Guides
 109L. " " "
 110. Tumbler Knife, Ribbon Lap
 111. Tumblers, " "
 112. Handle Shaft, " "
 113. Driving " " "
 114. $\frac{5}{8}$ in. Stop Rod " "
 115. $\frac{3}{4}$ in. Wood Roller Shaft, Ribbon Lap
 116. Square Ended Stop Rod, " "
 117. Round " " " " "
 118. Fish Tail Shaft, " "

119. $\frac{1}{2}$ in. Bevel Wheel Shaft, Ribbon Lap
 120. $\frac{7}{8}$ in. Creel Rod, " "
 121. Brake Shaft
 122. Short $\frac{5}{8}$ in. Shaft for Radius Bracket, Ribbon Lap
 123. Bridge for Calender Rollers
 124. Bridge Bolt
 125. Bridge Lever
 126. 1 in. Handle Shaft, Ribbon Lap
 127R. 20 T. Bevel Wheel Guard, Ribbon Lap
 127L. " " " " " "
 128R. 20 T. Bevel and 54 T. Spur Cover, Ribbon Lap
 128L. " " " " " "
 129R. 3 Wheel Gearing End Guard, " "
 129L. " " " " " "
 130. Knocking-off Bracket for Square Ended Rod,
 Ribbon Lap
 131. Bevel Shaft Bracket, Ribbon Lap
 132. " " " for Carrier Wheel, Ribbon Lap
 133. Spider, Ribbon Lap
 134. Spider Shaft, Ribbon Lap
 135R. Gearing End Curl Plate, Ribbon Lap
 135L. " " " " " "
 136R. Off " " " " "
 136L. " " " " " "
 137. Middle Curl Plate, Ribbon Lap
 138. Front Stretcher, " "
 139. Back " " "
 140R. Bottom Gearing Bracket, Ribbon Lap
 140L. " " " " " "
 141. Small Hand Wheel
 142. Large " " Sliver Lap
 143. Middle Size Hand Wheel, Ribbon Lap
 144. Half Moon Guard, Ribbon Lap
 145. Brass Step (Gearing End), Ribbon Lap
 146. " " (Ordinary), " "
 147. Weight Wire (Straight), " "
 148. " " (Cranked), " "
 149. Wire Hook, Ribbon Lap
 150. " " Sliver Lap

151. Brass Weight Hook, Sliver Lap
152. Brass Roller Bracket, Ribbon Lap
153. Wood Roller Bracket for Revolving Clearer,
Ribbon Lap
154. Swing for Revolving Clearer, Ribbon Lap
155. Swing Cap for ,, ,, ,, ,,
156. Curl for ,, ,, ,, ,,
157. Brass Bracket for Horn Box, ,, ,,
- 158^R. Table Bracket, Ribbon Lap
- 158^L. ,, ,, ,, ,,
159. Top Clearer Cover (Middle), Ribbon Lap
- 160^R. ,, ,, ,, (Gearing End), Ribbon Lap
- 160^L. ,, ,, ,, ,, ,, ,,
- 161^R. ,, ,, ,, (Off End), ,, ,,
- 161^L. ,, ,, ,, ,, ,, ,,
162. Iron Calender Clearer
163. Handle Shaft Bracket, Ribbon Lap
164. Brass Slide for Gearing End Stand, Ribbon Lap
165. Cross Lever, Sliver Lap
166. $\frac{7}{8}$ in. Side Shaft Bracket, Sliver Lap
167. Large Guard Bracket, ,, ,,
168. Driving Shaft Bracket, ,, ,,
169. 25 T. Carrier Heart Bracket, Sliver Lap
170. Under Clearer Lever
171. Long Spider, Sliver Lap
172. Short ,, ,, ,,
173. Knocking-off Spring, Sliver Lap
174. Clutch Weight Bracket, Sliver Lap
175. Finger for Clutch Weight ,, ,,
176. Clutch Weight, Sliver Lap
177. Calender Step
178. ,, ,, without Boss, Sliver Lap
179. Drum Step
180. Small Bracket for Tumbler Strip, Sliver Lap
181. ,, ,, ,, Knife ,, ,,
182. Calender Wheel Guard Bracket
183. 3 in. Calender Clearer Weight, Ribbon Lap
184. Bracket for ditto, Ribbon Lap
185. Setting-on Handle for $\frac{3}{4}$ in. Shaft, Ribbon Lap

186. Small Curl Holder, Ribbon Lap
187. Bob Weight for Clearer
188. 20 T. Bevel $\frac{3}{4}$ in. Bore for 3 in. Calenders, Ribbon Lap
189. 20 T. Bevel $\frac{7}{8}$ in. Bore for 3 in. Calenders, Ribbon Lap
190. Sliver Plate, Sliver Lap
191. Tumbler Spoon, Sliver Lap
192. Brass Roller, Ribbon Lap
193. Tumbler Knife, Sliver Lap
- 194R. Roller Slide " "
- 194L. " " " "
195. Middle Roller Slide, Sliver Lap
196. Knocking-off Bracket for Square Ended Rod, Sliver Lap
197. 26 T. Double Carrier Bracket, Sliver Lap
198. 40 T. Broad " " " "
199. Large Guard, Sliver Lap
200. Tongue for ditto, Sliver Lap
201. Radius Bracket, Ribbon Lap
202. Strap Fork for ditto, Ribbon Lap
203. Large Hole Calender Wheel Guard, Ribbon Lap
- 204A. Bonnet Guard, Ribbon Lap
204. Lap Plate with Nut
205. Lap Plate without Nut
206. 40 T. and 14 T. Carrier Bracket, Ribbon Lap
207. Guard Bracket, Ribbon Lap
208. Weight for Brake Lever
209. Coupling Bracket, Ribbon Lap
210. 56 T. Wood Roller Wheel, Ribbon Lap
- 211R. Back Plate for Revolving Clearer, Ribbon Lap
- 211L. " " " " " "
212. " " (Middle) " " " "
- 213R. " " for Ordinary " " "
- 213L. " " " " " "
- 213A. " " (Middle) " " " "
- 214R. Rack, Ribbon Lap
- 214L. " " "
- 215R. " Sliver Lap

- 215L. Rack, Sliver Lap
- 216. Rack Cap
- 217. Rack Bowl
- 218. Oblong Guard, Ribbon Lap
- 219. " " Sliver Lap
- 220R. 50 T. Calender and Drum Wheel Guard, Ribbon
Lap
- 220L. 50 T. Calender and Drum Wheel Guard, Ribbon
Lap
- 221. Bottom Calender Roller with Wrought Iron Shaft,
Ribbon Lap
- 222. Ordinary Calender Roller, Ribbon Lap
- 223. Bottom " " Sliver Lap
- 224. " " " with Wrought Iron
Shaft, Sliver Lap
- 225. Top Calender Roller, Sliver Lap
- 226. Fluted Wood Roller, Ribbon Lap
- 227. 3 in. Calender Roller, " "
- 228. Top Clearer for ditto, " "
- 229. Bearer for Driving Shaft, Ribbon Lap
- 230. Eccentric Lever for Revolving Clearer, Ribbon
Lap
- 231. Lap Guide, Ribbon Lap
- 232R. 3-Wheel Bracket, Ribbon Lap
- 232L. " " " " " "
- 233R. Wood Roller Wheel Guard, Ribbon Lap
- 233L. " " " " " "
- 234. Tumbler Bar, Ribbon Lap
- 235. Small Cast Iron Arm for Revolving Clearer, Rib-
bon Lap
- 236. Small Brass Arm for Revolving Clearer, Ribbon
Lap
- 237. Comb for Revolving Clearer, Ribbon Lap
- 238. Square Guard, Ribbon Lap
- 239. Bracket for Round Ended Stop Rod, Ribbon Lap

STUDS.

- 1s. Stud for Brake, Sliver Lap
- 2s. Stud for 45 T. and 21 T. Brake Wheels, Sliver Lap
- 3s. " " " " " " " Ribbon Lap
- 4s. " " Lap Table
- 5s. " " 41 T. and 26 T. Carrier, Sliver Lap
- 6s. " " 64 T. Carrier, Sliver Lap
- 7s. " " Oblong Guard
- 8s. $\frac{3}{4}$ in. Stud for Round Guard, Sliver Lap
- 9s. Stud for Long Tongue Guard " "
- 10s. $\frac{5}{8}$ in. Stud for Long Tongue Guard, Sliver Lap
- 11s. $\frac{5}{8}$ in. " " Clutch Weight, Sliver Lap
- 12s. $\frac{5}{8}$ in. " " 40 T. Broad Carrier, Sliver Lap
- 13s. Stud for Underclearer Lever
- 14s. " " " " " Ribbon Lap
- 15s. $\frac{5}{8}$ in. Stud for Rack Cap
- 16s. Double Ended Stud for Stop Motion, Ribbon Lap
- 17s. Long Stud for 3-Wheel Bracket " "
- 18s. Short " " " " " "
- 19s. Stud for Round Ended Stop Rod " "
- 20s. " " 100 T. Crown Wheel " "
- 21s. " " 50 T. Carrier for $\frac{7}{8}$ in. Bevel Shaft,
Ribbon Lap

DETAILS FOR HEILMANN COMBERS.

JOHN HETHERINGTON & SONS,
LIMITED,

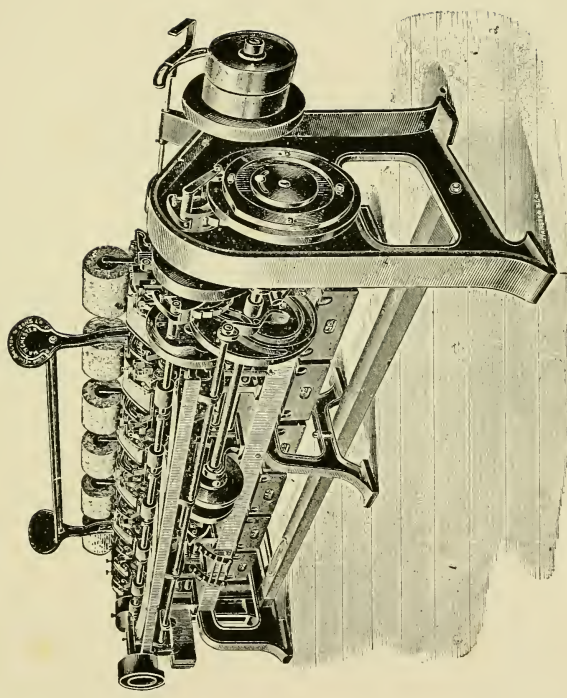
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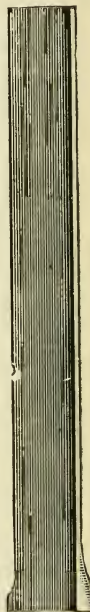
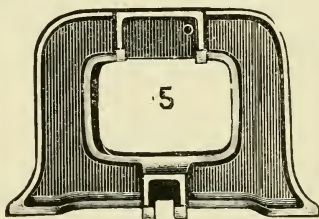
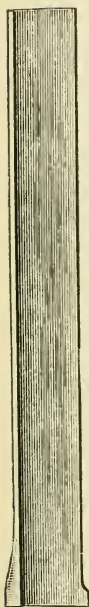
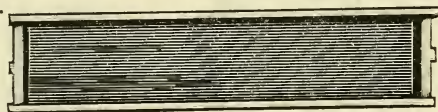
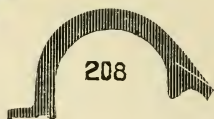
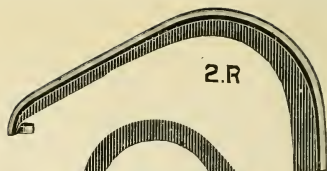
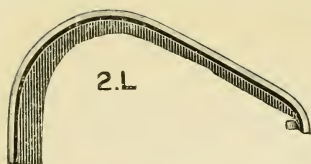
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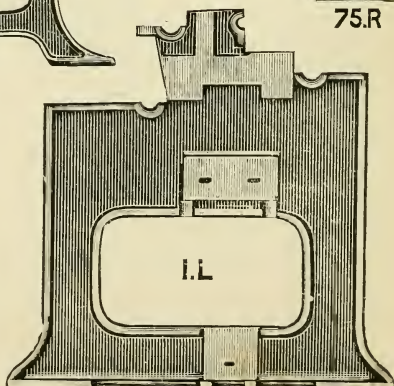
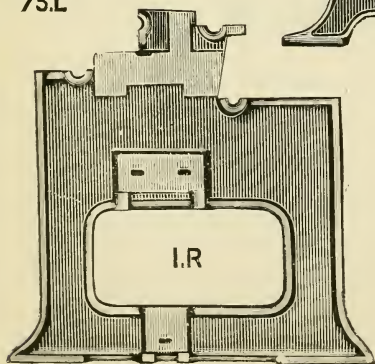
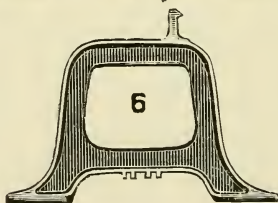


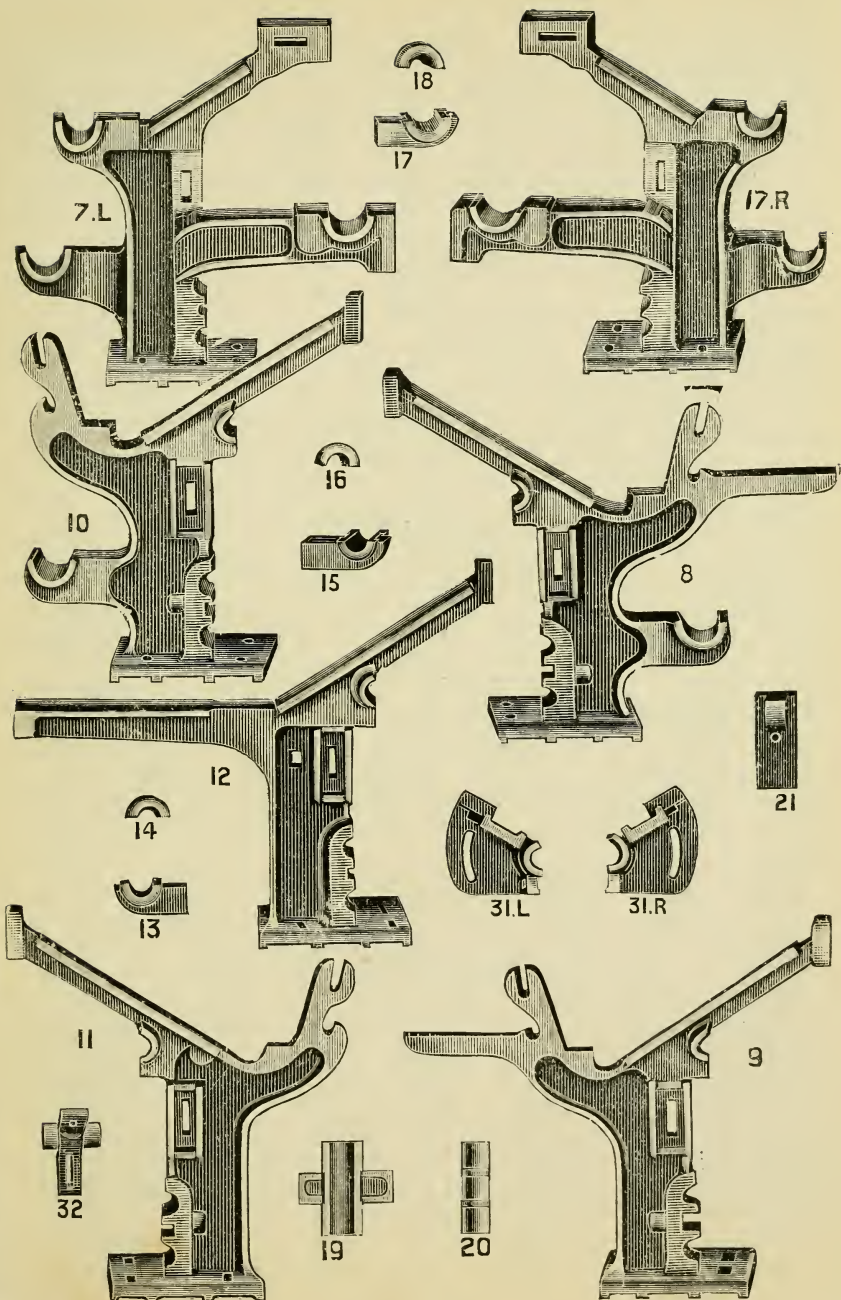
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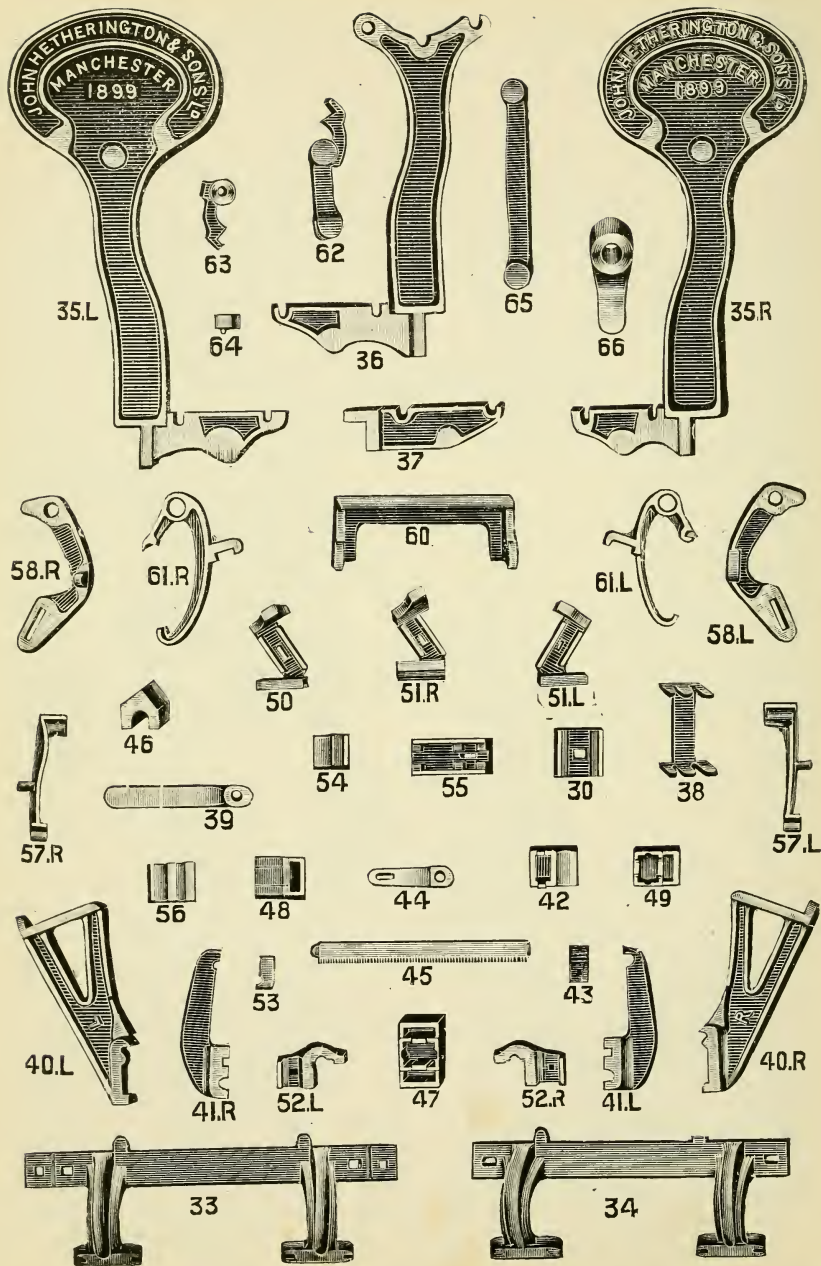


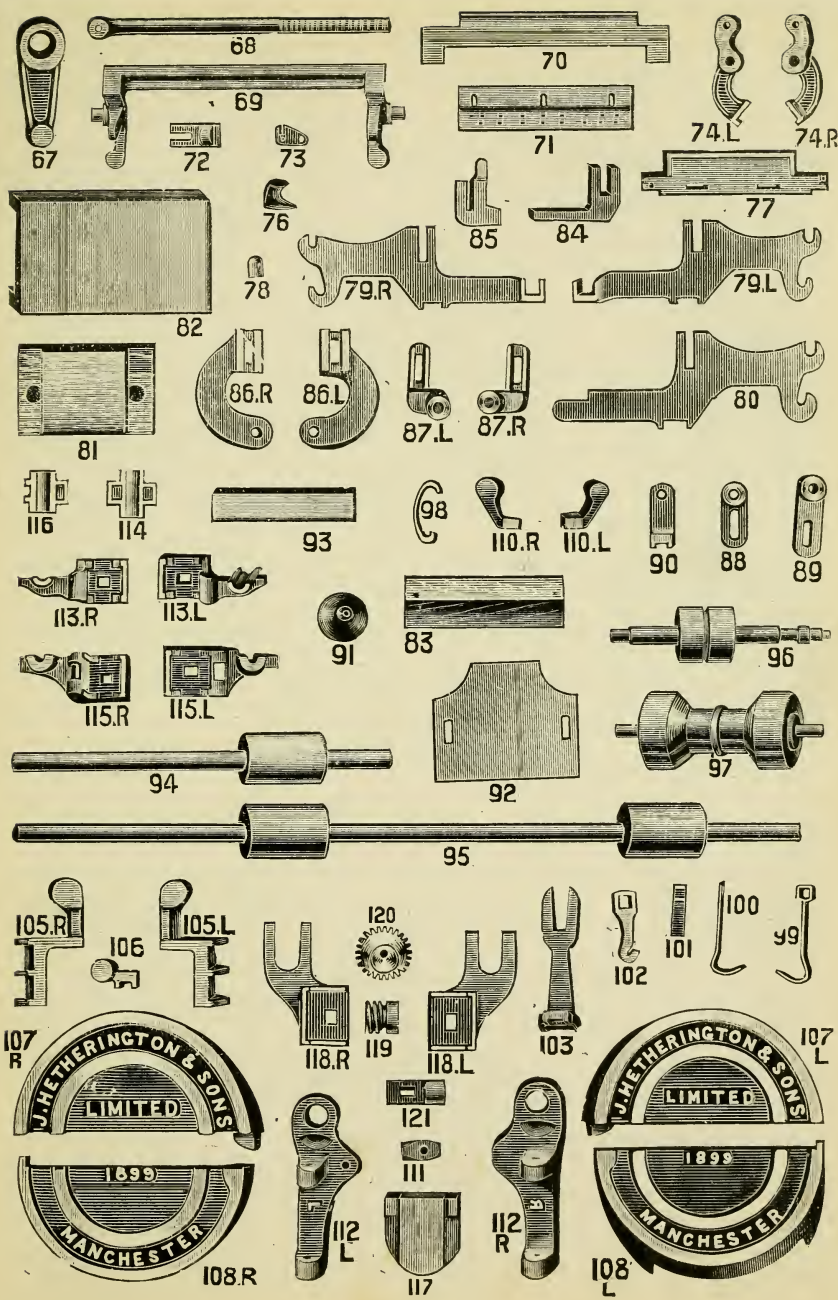
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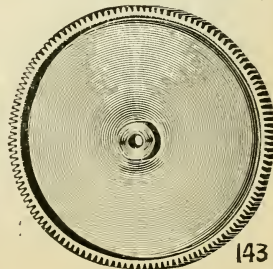
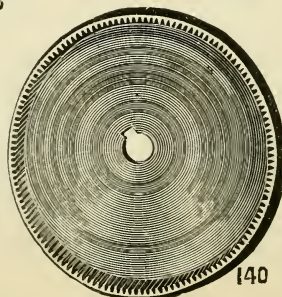
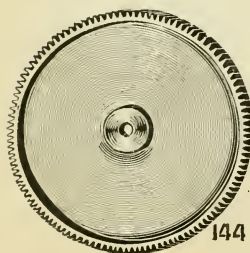
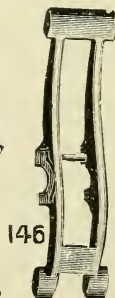
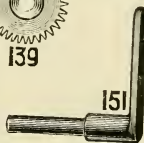
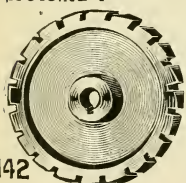
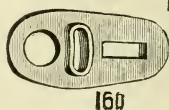
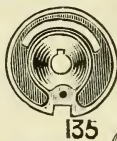
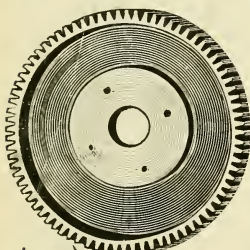
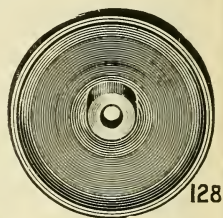
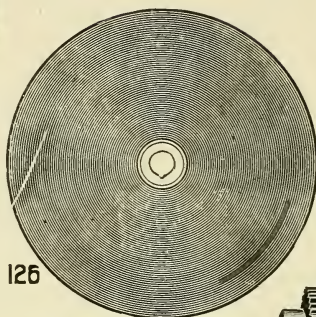
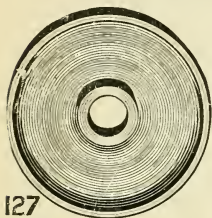
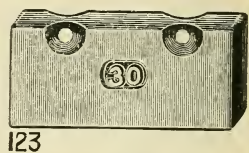
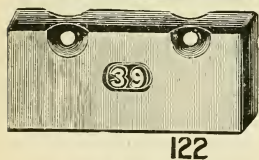
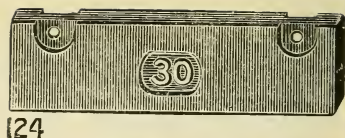
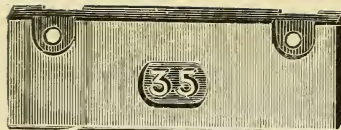
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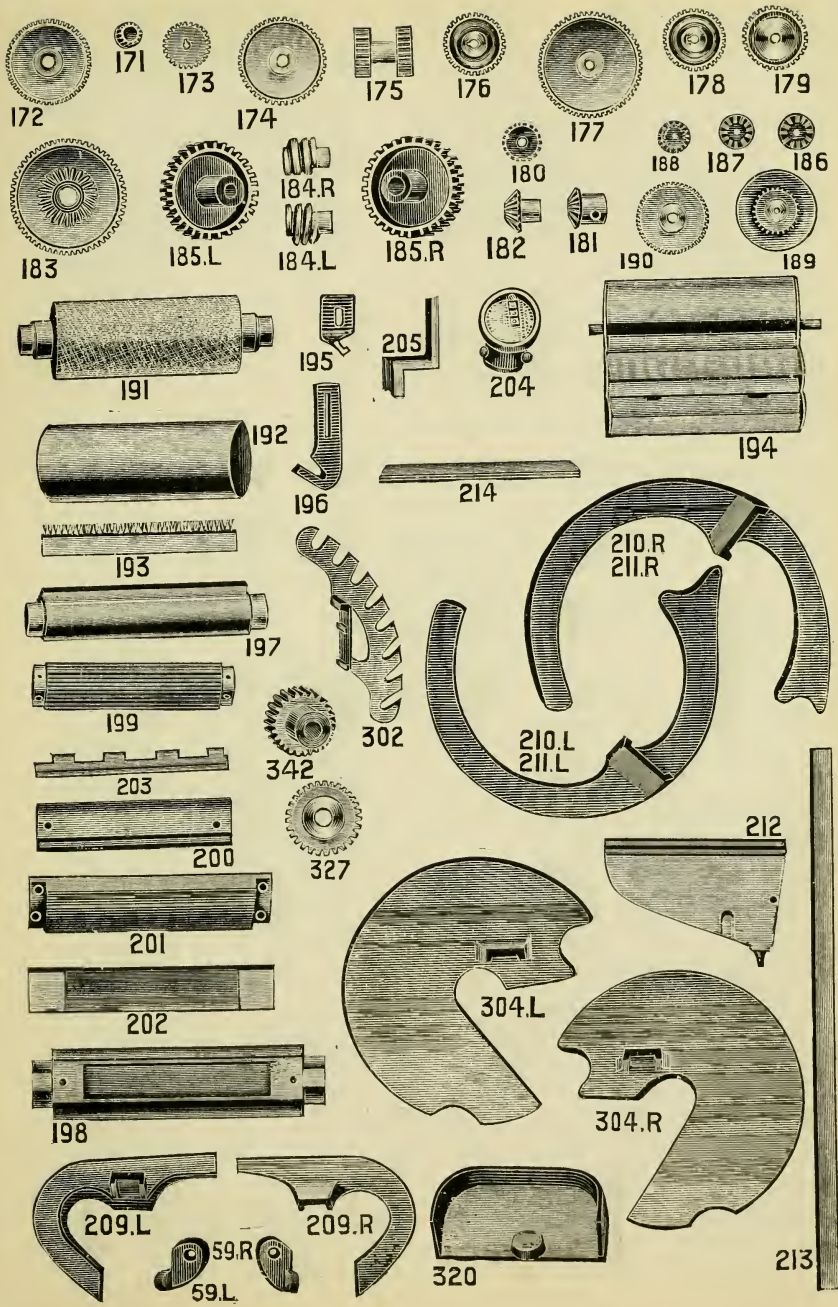


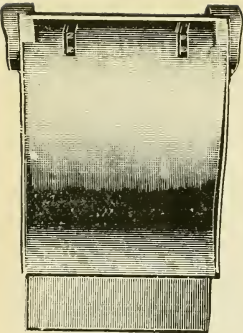








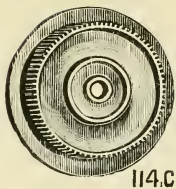




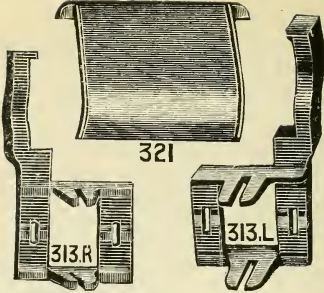
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114.C



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313.R

313.L



149.C



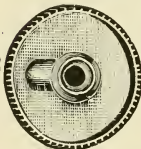
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147.C



166.C



115.C



142.C



145.C



143.C



144.C



109.C



110.C



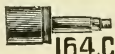
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188.C



108.C



164.C



165.C



105.C



116.C



113.C



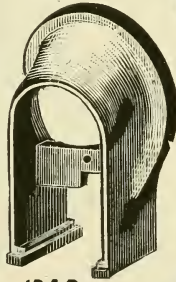
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117.C



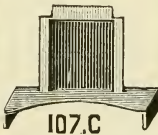
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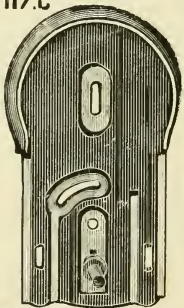
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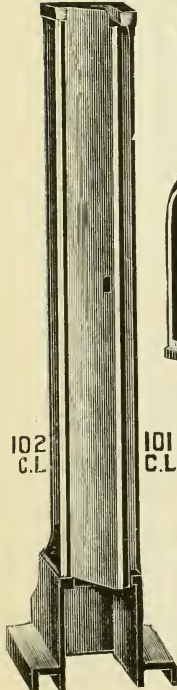
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107.C

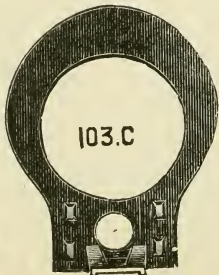


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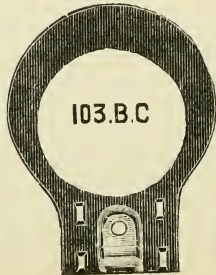


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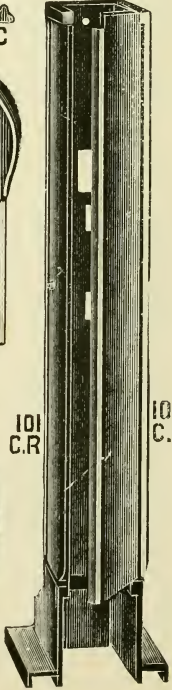
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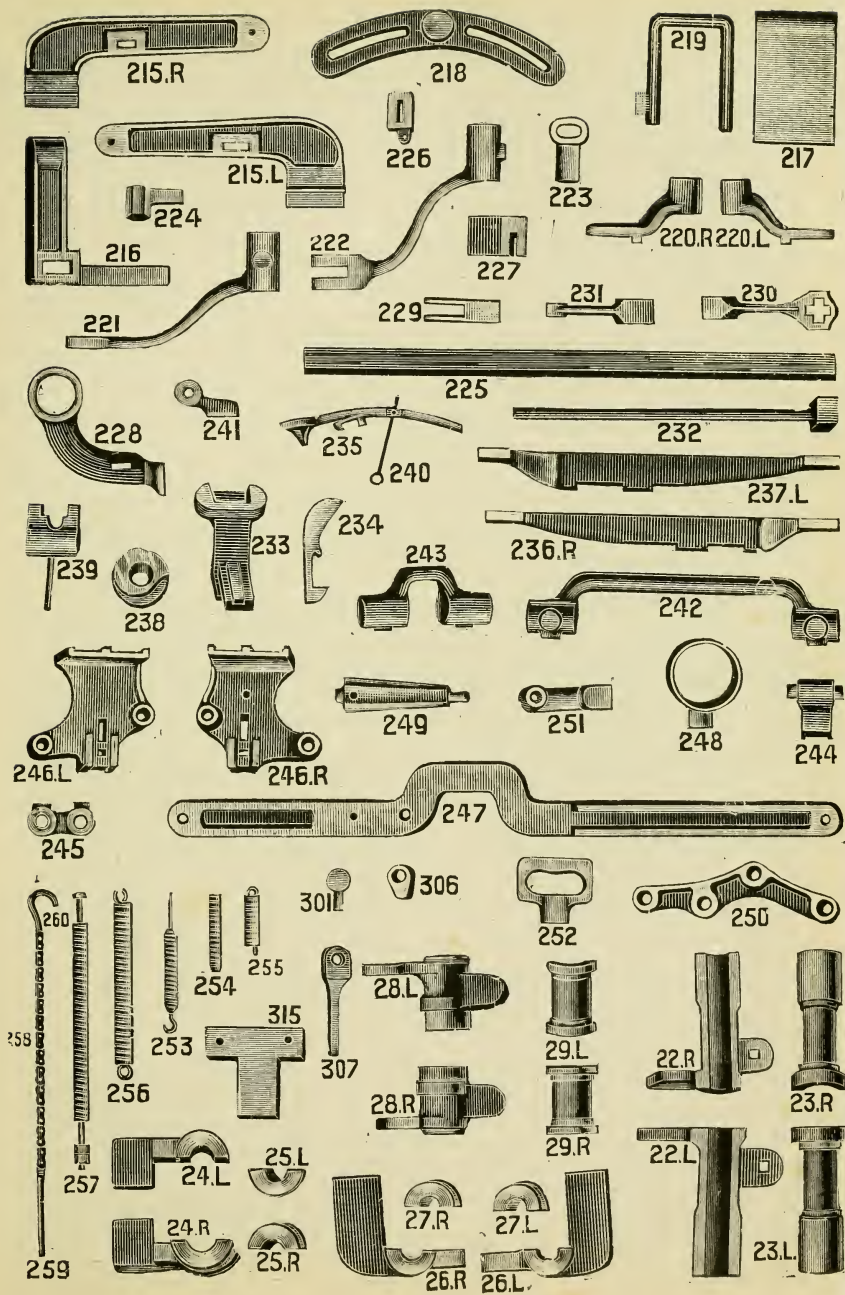


103.B.C



101
C.R

102
C.R



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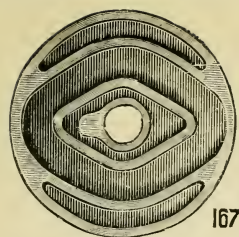
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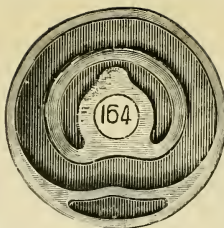
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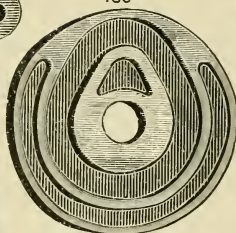
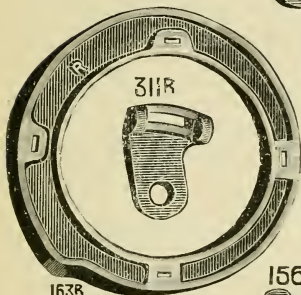
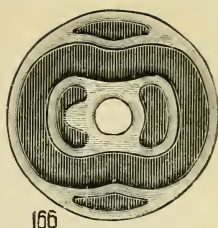
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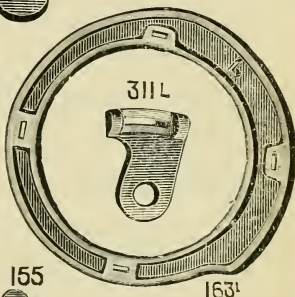
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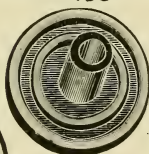
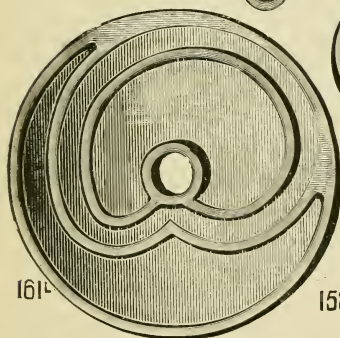
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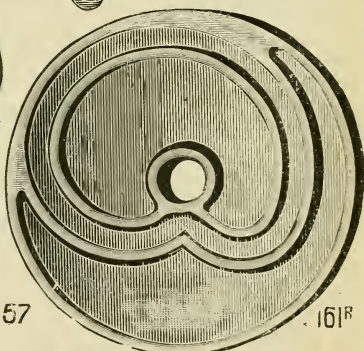
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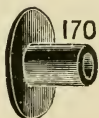
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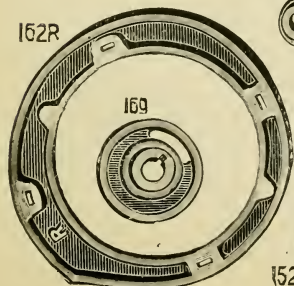


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162 R



152 R

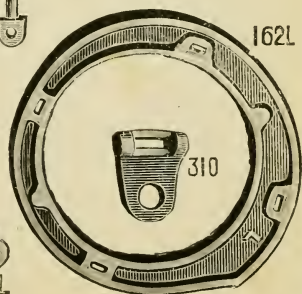


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152 L

310





6.S



19.S



12.S



11.S



31.S



27.S



8.S



14.S



18.S



14.S



15.S



5.S



9.S



7.S



2.S



13.S



30.S



10.S



29.S



20.S



26.S



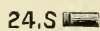
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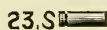
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24.S



28.S



23.S



22.S



16.S



4.S



17.S



1.S

DETAILS FOR HEILMANN COMBERS.

- 1R. Large Frame End
- 1L. " " "
- 2R. Gearing End Guard
- 2L. " " "
- 3. Comber Beam
- 4. " Rail
- 5. Off End
- 6. Spring Piece
- 7R. Second Gearing Stand
- 7L. " " "
- 8. Short Tail Stand with Step
- 9. " " without Step
- 10. Common Stand with Step
- 11. " " without Step
- 12. Long Tail Stand for Off End
- 13. Short Thick Back Cap
- 14. Loose Half Step for ditto
- 15. Long Thick Back Cap
- 16. Loose Half Step for ditto
- 17. Narrow Back Cap
- 18. Loose Half Step for ditto
- 19. Double Boss Cap
- 20. Loose Half Step for ditto
- 21. Double Cap for Stand
- 22R. Driving Shaft Step on Frame End
- 22L. " " "
- 23R. Loose Half Step for ditto
- 23L. " " "
- 24R. Cylinder Shaft Step on Frame End
- 24L. " " " "
- 25R. Loose Half Step for ditto
- 25L. " " "
- 26R. Notch Wheel Shaft Step on Frame End
- 26L. " " " "
- 27R. Loose Half Step for ditto
- 27L. " " "

- 28R. Cam Shaft Step on Frame End
- 28L. " " "
- 29R. Loose Half Step for ditto
- 29L. " " "
- 30. Compound Slide
- 31R. Off End Cylinder Shaft Cap for No. 12 Stand
- 31L. " " " " "
- 32. Common Cylinder Shaft Cap for Nos. 10 and 11
 Stands
- 33. End Back Bar
- 34. Middle "
- 35R. Bull Head
- 35L. "
- 36. Middle Bull Head
- 37. Small Back Stand for 8 Head Comber
- 38. Lap Conductor Bracket
- 39. Long Fish Tail or Lap Guide
- 40R. Doffer Slide Stand
- 40L. " "
- 41R. Doffer Slide
- 41L. " "
- 42. Doffer Slide Cap
- 43. Cap for Doffer Knife Shaft
- 44. Small Fish Tail for Doffing Comb
- 45. Doffing Comb
- 46. Top Block
- 47. " Cap (Middle)
- 48. " " (Gearing End)
- 49. " " (Off End)
- 50. Nipper Stand (Middle)
- 51R. " " (End)
- 51L. " " (End)
- 52R. Nipper Stand Slide
- 52L. " "
- 53. Cap for ditto
- 54. Feed Roller Slide
- 55. Double Slide for Detaching Roller
- 56. Cap for ditto
- 57R. Feed Lever
- 57L. "

- 58R. Top Comb Lever
- 58L. " "
- 59R. Thumb Bits for Top Comb Levers
- 59L. " " "
- 60. Top Comb
- 61R. Detaching Weight Hook
- 61L. " "
- 62. Large Lifter Lever
- 63. Small "
- 64. Slide for Lifter Lever
- 65. Lifter Link or Connecting Rod
- 66. Split Lever for Lifter Shaft
- 67. Nipper Shaft Lever
- 68. " " Connecting Rod
- 69. Nipper Frame
- 70. Nipper Knife
- 71. Cushion Plate
- 72. Brass Horse Head
- 73. Horse Tail
- 74R. Nipper Knife Arm
- 74L. " "
- 75R. Table
- 75L. "
- 76. Conductor for Table
- 77. Plate for Sliver Conductors
- 78. Sliver Conductors
- 79R. Draw Box Stand with Foot for Table
- 79L. " " " "
- 80. " " without Foot
- 81. Draw Box Clearer (Wood)
- 82. " " Cover
- 83. Wood Under Clearer for Drawing Head Rollers
- 84. Second Slide for Draw Box Stand
- 85. Third " " "
- 86R. Large Swan Neck Bracket
- 86L. " " "
- 87R. Small " "
- 87L. " " "
- 88. 80T Carrier Wheel Bracket
- 89. 64T " "

- 90. Trumpet Bracket
- 91. Brass Trumpet
- 92. Trumpet Plate
- 93. Sheet Iron Cover for Draw Box Cross Shaft
- 94. Top Calender Roller
- 95. Bottom "
- 96. Top Calender Roller for Draw Box
- 97. Bottom " " "
- 98. Weight Hook for Front Roller (Brass)
- 99. " " " (Wire)
- 100. " " " (")
- 101. Saddle for 2nd and 3rd Rollers
- 102. Flat Sheet Iron Hooks for 2nd and 3rd Rollers
- 103. Fork Bracket for Drawing Head Box Guard
- 104. Plug " " "
- 105R. Large Cross Shaft Bracket
- 105L. " " "
- 106. Small " "
- 107R. Circular Guard, Top Part
- 107L. " " "
- 108R. " " Bottom Part
- 108L. " " "
- 109R. Box Guard
- 109L. "
- 110R. Diagonal Shaft Bracket
- 110L. " "
- 111. Hammer Head
- 112R. Radial Arm Bracket
- 112L. " "
- 113R. End Brush Bracket
- 113L. " "
- 114. " " Cap
- 115R. Middle Brush Bracket
- 115L. " " "
- 116. " " Cap
- 117. Brush Traverse Box
- 118R. Fork Bracket for Brush Traverse Eccentric
- 118L. " " " "
- 119. Worm for Brush Traverse Motion
- 120. Worm Wheel, with Eccentric, for Brush Traverse Motion

- 121. Bracket for Chain Rod
- 122. 39 lb. Weight for Draw Box
- 123. 30 lb. " " "
- 124. 30 lb. " " Detaching Roller
- 125. 35 lb. " " " " " (10½ in. lap or
Double Nip)
- 126. Fly Wheel
- 127. Driving Pulley
- 128. Loose "
- 129. 21T Driving Wheel
- 130. 28T Brush Driving Wheel
- 131. 34T " Carrier "
- 132. 30T " Shaft "
- 133. 80T Cylinder Shaft Wheel (Index Wheel)
- 134. 80T Cam Shaft Wheel
- 135. Clutch Box for Single Nip
- 136. " " Double "
- 137. Star Wheel
- 138. Feed Wheel, 12 to 19T
- 139. 38T Feed Roller Wheel
- 140. 138T Internal Wheel
- 141. 18T Detaching Roller Pinion
- 142. Notch Wheel
- 143. 142T Plate Wheel for Single Nip
- 144. 125T " " Double "
- 145. Cam Shaft Wheel (20 and 21T for Single Nip and
36T for Double)
- 146. Cradle
- 147R. Extra Cradle for Double Nip
- 147L. " " "
- 148. Cap for Cradle
- 149. Catch for Notch Wheel
- 150. Steel Die for Catch
- 151. Stud Lever for Cradle
- 152R. Top Comb Eccentric Lever
- 152L. " " " "
- 153. " " " " for 8 heads
- 154. " " " for Single Nip
- 155. " " " for Double Nip
- 156. Doffer Comb Eccentric

- 157. Doffer Comb Link on Eccentric
- 158. " " " " on Doffer Shaft
- 159R. Cannon Bracket for Star Wheel
- 159L. " " " "
- 160. Brush Carrier Wheel Bracket
- 161R. Large Cam
- 161L. " "
- 162R. Large Cam Ring
- 162L. " " "
- 163R. " " " (Double Nip)
- 163L. " " " " "
- 164. Nipper Cam
- 165. Lifter Cam
- 166. Nipper Cam (Double Nip)
- 167. Lifter " " "
- 168. Large Cam Bush
- 169. Nipper and Lifter Cam Bush
- 170. Bush for 80T Wheel
- 171. Cross Shaft Wheel, 16T for Single Nip and 32T
for Double, for Draw Box
- 172. 64T Carrier Wheel for Draw Box
- 173. Back Roller Wheel " "
- 174. 50T Wheel on Cross Shaft for Draw Box
- 175. 45T Wheel Double Carrier " "
- 176. Front Roller Wheel " "
- 177. 80T Bossed Carrier " "
- 178. 43T Calender Roller Wheel " "
- 179. 40T Broad Carrier " "
- 180. Middle Roller Wheel " "
- 181. 25T Bevel with Long Boss
- 182. 25T " " Short "
- 183. 60T Spur and 25T Bevel Cylinder Wheel
- 184R. Worm for driving Doffer
- 184L. " " "
- 185R. Worm Wheel on Doffer Shaft 32T
- 185L. " " " "
- 186. 23T Feed Roller Bevel
- 187. 22T Bevel for Diagonal Shaft
- 188. 20T " "
- 189. 55T Bevel and 35T Spur for driving Lap Rollers

223.	Swivel for Front Lever	for Stop Motion
224.	Finger for Stop Rod	" "
225.	Flat Rod	" "
226.	Spring Bracket for Flat Rod	" "
227.	Weight " "	" "
228.	Eccentric Lever on Eccentric	" "
229.	" " on Rocking Shaft	" "
230.	Star Lever	" "
231.	Rocking Shaft Lever for Coiler	
	Knocking-off Rod	" "
232.	Coiler Knocking-off Rod	" "
233.	Tumbler Bracket for Coiler	" "
234.	Tumbler for Coiler	" "
235.	Front Tumbler for Knife	
236R.	Front Knife	" "
237L.	" "	" "
238.	Eccentric	" "
239.	Balance Weight for Knife	" "
240.	" " " Front Tumbler	" "
241.	Rocking Shaft Bracket for Long Tail Stand	
	for Stop Motion	
242.	Coupling for Rocking Shaft, 6 Heads	" "
243.	" " " " 8	" "
244.	Rocking Shaft Bearer Bracket	" "
245.	Connecting Link for Setting-on Rod	" "
246R.	Table Bracket	" "
246L.	" "	" "
247.	Knocking-off Lever or Cross	
248.	Strap Ring	
249.	Pillar for Strap Ring	
250.	Bull Dog Bracket for Stop Rod	
251.	Skittle Bracket for Knocking-off Lever	
252.	Handle for Stop Rod	
253.	Feed Spring	
254.	Nipper "	
255.	Notch Wheel Spring	
256.	Beam Spring for Stop Motion	
257.	Spring for Flat Rod "	
258.	Comber Weight Chain	
259.	Stirrup for ditto	

- 260. Hook for Comber Weight Chain
- 261. Long Steel Detaching Roller
- 262. Plain Top „
- 263. Heavy Brass „
- 264. End Slide for Long Steel Detaching Roller
- 265. Cap for ditto
- 266. End Slide for Long Feed Roller
- 267. Cap for ditto
- 268. Bush for Top Detaching Roller
- 269. Brass Half-stick for Detaching Roller Bush
- 270. Long Steel Feed Roller
- 271. Top Feed Roller
- 272. Driving Shaft, $1\frac{1}{4}$ in. dia.
- 273. Collar for ditto
- 274. Cam Shaft, $1\frac{1}{4}$ in. dia.
- 275. Notch Wheel Shaft, $1\frac{1}{4}$ in. dia.
- 276. Collar for ditto
- 277. Cylinder Shaft, $1\frac{1}{8}$ in. dia.
- 278. Collar for ditto
- 279. Lifter Shaft, $1\frac{1}{4}$ in. dia.
- 280. Nipper Shaft, $1\frac{1}{2}$ in. dia.
- 281. Brush Shaft, $\frac{3}{4}$ in. dia.
- 282. Collar for ditto
- 283. Doffer Shaft, 1 in. dia.
- 284. Collar for ditto
- 285. Doffer Knife Shaft, $\frac{5}{8}$ in. dia. for 6 heads, $\frac{3}{4}$ in. dia.
for 8 heads
- 286. Lap Roller Shaft, $\frac{5}{8}$ in. dia.
- 287. Long Fish Tail Shaft, $\frac{5}{8}$ in. dia.
- 288. Diagonal Shaft, $\frac{9}{16}$ in. dia.
- 289. Radial Arm Shaft, $\frac{3}{4}$ in. dia.
- 290. Cross Shaft for Draw Box, $\frac{3}{4}$ in. dia.
- 291. Small Lifter Shaft, $\frac{5}{8}$ in. dia.
- 292. Nipper Frame Shaft, $\frac{5}{8}$ in. dia.
- 293. Top Comb Lever Shaft, 1 in. dia.
- 294. Star Wheel Shaft, $\frac{3}{4}$ in. dia.
- 295. Creel Rods, $\frac{3}{4}$ in. dia.
- 296. Cross Shaft for Stop Motion, $\frac{7}{8}$ in. dia.
- 297. Short Stop Rod for Stop Motion, $\frac{3}{4}$ in. dia.
- 298. Long Stop Rod under table for Stop Motion,
 $\frac{3}{4}$ in. dia.

- 299. Long Ordinary Stop Rod, $\frac{3}{4}$ in. dia.
- 300. Shaft for Strap Ring
- 301. Swivel for Knocking-off Lever on Coiler
- 302. Pipe Rack
- 303.
- 304R. Internal Wheel Guard
- 304L.
- 305. Swivel for Nipper Lever
- 306. Lock Stop for Setting-on Rod.
- 307. Lever for ditto
- 308. Nipper Cam Lever
- 309R. Lifter " "
- 309L. " " "
- 310. Horse Shoe for Nipper Shaft
- 311R. Horse Shoe for Lifter Shaft
- 311L.
- 312. Drawing Head Fork for Top Calender Roller
- 313R. Table Bracket for 8 Head Comber
- 313L.
- 314. Bob Weight for Under Clearer
- 315. Guard for Calender Roller Bevels for 8 Heads
- 316. Steel Bowl for Stud Lever
- 317. " " Top Comb Lever
- 318. " " Nipper and Lifter Cam
- 319. " " Large Cam
- 320. Guard for Lap Roller Wheels
- 321. Lap Conductor
- 322. Back Tin
- 323. Fluted Wood Roller
- 324. Coupling for Cylinder Shaft
- 325. Wood Clearer for Detaching Roller
- 326. Name Plate
- 327. 36T Cam Shaft Wheel for Double Nip
- 328. Diagonal Shaft
- 329. Brush "
- 330. Cylinder "
- 331. Small Fish Tail or Doffer Knife Shaft
- 332. Chain Pulley Rod
- 333. Lap Roller Shaft
- 334. $\frac{9}{16}$ in. Collar

335. $\frac{5}{8}$ in. Collar
 336. $\frac{3}{4}$ " "
 337. $\frac{9}{16}$ " "
 338. Chain Pulley.
 339.
 340. Long Angle Bracket for Coiler
 341. Short " " "
 342. 24T Brush Wheel for Double Nip

COILERS.

- 101C.R. Coiler Trunk
 101C L. " "
 102C.R. " Door
 102C.L. " "
 103C. " Table
 103B.C. " " with Boss
 104C. " Bonnet
 105C. " " Lid
 106C. " Bottom
 107C. " " Front Plates
 108C. " " Back
 109C. " Shaft Bracket
 110C. Fast Bracket for Coiler Calender Roller
 111C. Swivel " " " "
 112C. Clearer " " " "
 113C. Can Wheel Stud
 114C. Can Wheel
 115C. Press Wheel
 116C. Adjustable Shaft Bracket
 117C. Shaft Block for "
 142C. 17T Coiler Stud Wheel
 143C. 19T or 20T Coiler Shaft and Calender Bevel
 144C. " Shell Bevel for Coiler Stud and
 Calender
 145C. 20T Spur Wheel for Coiler Calender
 146C. 13T Pinion for Driving Can Wheel
 147C. Coiler Carrier Wheel 35T
 148C. 36T and 13T Compound Wheel
 149C. 35T Bossed Carrier for Press Wheel

- 164c. Short Shaft Calender Roller
- 165c. Long " " " " for Carrying Bevel
- 166c. Spring for Calender Rollers
- 171c. Latch for Coiler Door
- 188c. Coiler Shaft

STUDS, &c.

- 1s. Steel Stud for Stud Lever
- 2s. " Bowl " "
- 3s. " Stud for Clutch Box
- 4s. " " Top Comb Lever
- 5s. " Bowl " " "
- 6s. " Stud for Nipper or Lifter Cams
- 7s. " Bowl " " "
- 8s. " Stud for Large Cam
- 9s. " Bowl " "
- 10s. Stud for Small Swan Neck Bracket (Draw Box)
- 11s. " Large " " " "
- 12s. " 80T Carrier Wheel Bracket " "
- 13s. " 64T and 45T Double Carrier Wheel
Bracket (Draw Box)
- 14s. " for Guard, long and short (Draw Box)
- 15s. Knob for Box Guard
- 16s. Stud for Eccentric Lever (Stop Motion)
- 17s. " Front " " "
- 18s. " L " " "
- 19s. Stand Stud for Cross
- 20s. Stud for Doffer Eccentric
- 21s. " " Link
- 22s. Lifter Link Stud (Long)
- 23s. " " " (Short)
- 24s. Nipper Link Stud
- 25s. Connecting Rod Stud
- 26s. 80T Wheel Guard Stud
- 27s. Cast Iron Stud for 34T Carrier
- 28s. Stud for Feed Lever
- 29s. " Short Cross
- 30s. " Long "
- 31s. " Traverse Motion Box

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Details for lap machines ;
Details for Heilmann

